Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original) An isolated mammalian cell-surface estrogen receptor characterized by
   (a) a non-stereospecific binding affinity for 17α-estradiol and 17β-estradiol;
   (b) at least one epitope in common with the ligand-binding domain of ER-α; and
   (c) increased presence at caveolar or caveolar-like microdomains of cells on which the receptor is present.

2. (canceled)

3. (original) A composition of matter comprising a lipid membrane, other than that of an intact cell, comprising the receptor of claim 1 operably situated therein.

4. (canceled)

5. (original) A method for determining whether an agent specifically binds to the receptor of claim 1 which comprises
   (a) contacting the receptor with the agent under suitable conditions;
   (b) detecting the presence of any complex formed between the receptor and the agent; and
   (c) determining whether the complex detected in step

(b) is the result of specific binding between the agent and receptor, thereby determining whether the agent specifically binds to the receptor.

6. (canceled)

7. (canceled)

8. (original) A method for determining the affinity with which an agent binds to the receptor of claim 1 relative to that with which a known ligand binds the receptor, which comprises

(a) concurrently contacting the receptor with both the agent and a ligand that binds the receptor with a known affinity under conditions which permit the formation of a complex between the receptor and the ligand;

(b) determining the amount of complex formed between the agent and the receptor; and

(c) comparing the amount of complex determined in step (b) with the amount of complex formed between the agent and the receptor in the absence of the ligand, wherein (i) a ratio of agent in the complex determined in step (c) to that determined in step (b) greater than 2 indicates that the agent binds to the receptor with less affinity than does the ligand, (ii) a ratio of less than 2 indicates that the agent binds to the receptor with greater affinity than does the ligand, and (iii) a ratio of 2 indicates that the agent and ligand bind to the receptor with the same affinity.

9. (canceled)

10. (original) A method for determining whether an agent is an agonist of the receptor of claim 1, which comprises

(a) contacting the receptor with the agent under conditions which permit (i) the formation of a complex between the receptor and a known agonist of the receptor, and (ii) the generation of a detectable signal upon formation of a complex between the receptor and the known agonist; and

(b) determining whether a detectable signal is generated in step (a), the generation of such signal indicating that the agent is an agonist of the receptor.

11. (canceled)

12. (original) A method for determining whether an agent is an antagonist of the receptor of claim 1, which comprises

(a) contacting the receptor with the agent, in the presence of a known agonist, under conditions which permit (i) the formation of a complex between the receptor and the agonist, and (ii) the generation of a detectable signal upon formation of a complex between the receptor and the agonist; and

(b) comparing the signal, if any, generated in step (a) with the signal generated in the absence of the agent, the generation of a signal in the agent's absence greater than that generated in the agent's presence indicating that the agent is an antagonist.

13. (canceled)

14. (original) A method for activating the MAP kinase pathway of a cell having on its surface the receptor of claim 1 comprising contacting the cell with a concentration of 17α-estradiol of at least 0.1pM and less than 100pM under conditions permitting the 17α-estradiol to bind to the receptor, thereby activating the MAP kinase pathway in the cell.

15. (canceled)

16. (canceled)

17. (original) A method for treating a subject afflicted with a neurodegenerative disorder, comprising administering to the subject an amount of 17α-estradiol sufficient to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM, thereby treating the subject.

18. (original) A method for delaying the onset of a neurodegenerative disorder in a subject, comprising administering to the subject an amount of 17α-estradiol sufficient to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM, thereby delaying the onset of the neurodegenerative disorder in the subject.

19. (canceled)

20. (canceled)

21. (canceled)

22. (canceled)

23. (original) A method for treating a subject afflicted with a neurodevelopmental disorder, comprising administering to the subject an amount of 17α-estradiol sufficient to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM, thereby treating the subject.

24. (canceled)

25. (canceled)

26. (canceled)

27. (canceled)

28. (original) A method for treating a subject afflicted with a sexually dimorphic childhood disorder of cognition, comprising administering to the subject an amount of 17α-estradiol sufficient to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM, thereby treating the subject.

29. (canceled)

30. (canceled)

31. (canceled)

32. (canceled)

33. (canceled)

34. (original) A method for treating a subject afflicted with a uterine disorder, comprising administering to the subject an amount of 17α-estradiol sufficient to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM, thereby treating the uterine disorder in the subject.

35. (canceled)

36. (canceled)

37. (original) A method for treating a subject afflicted with a pulmonary disorder, comprising administering to the subject an amount of 17α-estradiol sufficient to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM, thereby treating the subject.

38. (canceled)

39. (canceled)

40. (original) A composition comprising (a) a pharmaceutically acceptable carrier and (b) a dose of 17α-estradiol which, when administered to a subject, is

sufficient to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM.

41. (original) An article of manufacture comprising (a) a packaging material having therein an amount of 17α-estradiol sufficient, upon administration to a subject, to raise the subject's plasma 17α-estradiol concentration to at least 0.1pM and less than 100pM, and (b) a label indicating a use of the 17α-estradiol for treating a disorder selected from the group consisting of a neurodegenerative disorder, a neurodevelopmental disorder, a sexually dimorphic childhood disorder of cognition, a uterine disorder, and a pulmonary disorder.